

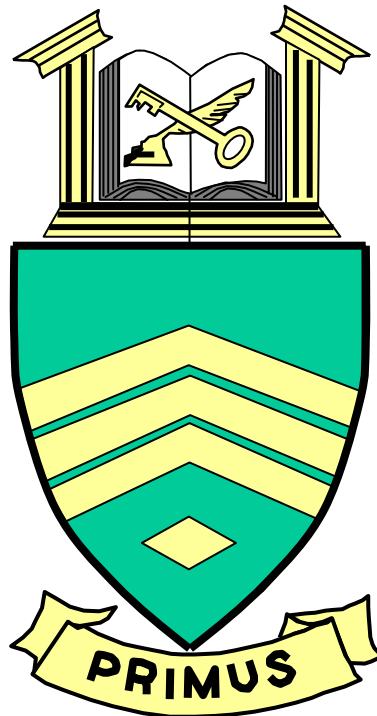
U.S. ARMY SERGEANTS MAJOR ACADEMY (FSC-TATS)

R656 (052002)

JUN 01

PREVENTIVE MAINTENANCE

PRERESIDENT TRAINING SUPPORT PACKAGE



Overview

All soldiers must perform proper Preventive Maintenance Checks and Services (PMCS). You, the senior leader, must provide the time and resources to support this effort. You will be responsible for supervising operator level PMCS on all unit equipment. Most soldiers have assigned weapons, protective masks, and other equipment requiring PMCS. It is impossible to maintain equipment readiness without conducting proper PMCS.

Inventory of Lesson Materials

Prior to starting this lesson ensure you received all materials (pages, tapes, disks, etc.) required for this Training Support Package. Go to the “**This [TSP or Appendix] Contains**” section, on page two of the TSP and the first page of each Appendix, and verify you have all the pages. If you are missing any material, contact the First Sergeant Course Class Coordinator at the training institution where you will attend Phase II FSC-TATS.

Point of Contact

If you have any questions regarding this lesson, contact the First Sergeant Course Class Coordinator at the training institution where you will attend Phase II FSC-TATS.

PRERESIDENT TRAINING SUPPORT PACKAGE

**TSP
Number/Title** R656
Preventive Maintenance

Effective Date JUN 01

**Supersedes
TSPs** R656, Preventive Maintenance
JUN 01

TSP User This TSP contains a training requirement that you must complete prior to attending phase II, FSC-TATS. It will take you approximately 1 hour to complete this requirement.

Proponent The proponent for this TSP is the U.S. Army Sergeants Major Academy.

**Comments and
Recommendations** Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to :

ATTN ATSS DCF FSC TATS
COMDT USASMA
BLDG 11291 BIGGS FLD
FT BLISS, TX 79908-8002

**Foreign
Disclosure
Restrictions** The lesson developer in coordination with the USASMA foreign disclosure authority has reviewed this lesson. This lesson is releasable to foreign military students from all requesting foreign countries without restrictions.

**This TSP
Contains**

The following table lists the material included in this TSP.		
Table of Contents		Page
Lesson	Section I, Administrative Data	2
	Section II, Introduction/Terminal Learning Objective	4
	Section III, Presentation	5
	Section IV, Summary	14
	Section V, Student Evaluation	14
	Section VI, Student Questionnaire	15
Appendixes	A. Lesson Evaluation and Solutions	Not used
	B. Lesson Exercise and Solutions	B-1
	C. Student Handouts	C-1

SECTION I ADMINISTRATIVE DATA**Task(s)
Trained**

This lesson trains the tasks listed in the following table(s):

Task number:	091-357-0002
Task title:	Supervise Preventive Maintenance Checks and Services
Condition:	In a maintenance environment, given necessary equipment and references
Standard:	Ensure PMCS is performed IAW Army standards in order to maintain optimum equipment performance and readiness
Task proponent	US Army Ordnance School, Ft Lee, VA

Tasks Reinforced

Task Number	Task Title
051-250-1001	Comply with Host Nation, Federal, State, and Local Environmental Laws and Regulations.
154-385-6465	Employ Risk Management Process During Mission Planning.
704-002-0001	Identify Leader Actions and Tools That Support the Army Management Control Process.

Prerequisite Lessons

None

Clearance and Access

There is no clearance or access requirement for this lesson.

Copyright Statement

No copyrighted material reproduced for this lesson.

References

The following table lists the references for completion of this lesson.

Number	Title	Date	Para. No	Additional Information
AR 750-1	Army Material Maintenance Policies	1 Jul 96		
FM 4-30.3	Maintenance Operations and Procedures	1 Sep 00		
DA Pam 738-750	The Army Maintenance Management System	1 Aug 94		

Equipment Required

None

**Materials
Required**

Paper and pencil

**Safety
Requirements**

None

**Risk
Assessment
Level**

Low

**Environmental
Considerations**

None

**Lesson
Approval**

The following individuals have reviewed and approved this lesson for publication and incorporation into the First Sergeant Course--The Army Training System

Name/Signature	Rank	Title	Date Signed
Ed Robbs	CNTR	Training Developer	
Ivan E. Williamson	SGM	Chief Instructor, FSC	
Gregory L. Knight	SGM	Course Chief, FSC-TATS	

SECTION II INTRODUCTION

**Terminal
Learning
Objective**

At the completion of this lesson, you will--

Action:	Identify the requirements for supervising PMCS.
Conditions:	As a first sergeant in a classroom environment, given an extract of DA Pam 738-750 (SH-2).
Standard:	Identified the requirements for supervising PMCS IAW SH-2.

Evaluation

Before entering phase II FSC-TATS, you will receive the end of Phase I Performance Examination that will include questions based on material in this lesson. On that examination, you must answer at least 70 percent of the questions correctly to achieve a GO.

**Instructional
lead-in**

Proper preventive maintenance checks and services is a primary factor, though often ignored, in successful mission accomplishment. First Sergeants play an important position in ensuring that their units conduct PMCS correctly. This lesson will familiarize you with this process.

SECTION III PRESENTATION

ELO 1

Action:	Identify the maintenance responsibility of the commander and leaders.
Conditions:	As a first sergeant in a classroom environment, given an extract of AR 750-1 (SH-1).
Standard:	Identified the maintenance responsibility of the commander and leaders IAW SH-1.

Learning Step/ Activity (LS/A) 1, ELO 1

- Read ELO 1 above.
- Study the Student Handout 1 at Appendix C.
- Complete Learning Exercise 1, questions 1-9, Appendix B.
- Compare your responses with the solution found in the SLE-1.
- If your response does not agree with the answer in the solution discussion, review the Student Handout and the reading material below.

LS/A 1, ELO 1 Introduction

In all operations, time is critical and replacement equipment is scarce. The force better able to maintain equipment in an operational condition or recover damaged equipment and return it to service rapidly has a clear advantage. First sergeants play a critical role in assisting the commander in managing the unit maintenance program. You accomplish this by ensuring your maintenance system meets the logistics and maintenance commitments required for your assigned missions.

Maintenance Responsibilities of the Commander

- AR 750-1 states that the commander is responsible for the quality of maintenance performed at the unit level. Commanders at all levels will:
- Emphasize the importance of maintenance.
 - Provide leadership, supervision, and management control.
 - Emphasize the conduct and supervision of PMCS.
 - Develop maintenance discipline.
 - Conduct training of operators/crews.

LS/A 1, ELO 1

Maintenance
Responsibilities
of the
Commander,
continued

-
- Conduct training of leaders.
 - Exercise management controls.
 - Conduct inspections/staff visits.
 - Provide materiel maintenance support.
 - Recommend improvements.
 - Comply with regulations.
 - Ensure report submission.
 - Encourage aggressive awards program for operators and maintainers.
 - Implement an effective quality program.
 - Ensure scheduling of PMCS.
 - Ensure compliance with requirements.
 - Ensure Battlefield Damage Assessment and Repair (BDAR) training.
 - Support the Sample Data Collection (SDC) program.
-

Army General
Maintenance
Policy

The first sentence in AR 750-1, paragraph 3-1 states: *The Army has one maintenance standard.* This standard applies to all equipment except equipment utilized as training aids and frequently disassembled and assembled for instructional purposes. Other aspects of this policy are:

- Proper use, care, and handling and conservation of materiel.
 - Appoint a staff supervisor.
 - Establish and maintain SOP's.
 - Structure maintenance support programs.
 - Direct materiel maintenance management.
 - New equipment design priorities are modular and discard at failure.
 - Repair on site.
 - Maintenance in forward areas.
-

LS/A 1, ELO 1

Army General
Maintenance
Policy,
continued

-
- Evacuation policy.
 - Fabrication of repair parts/components.
 - Modification/Alteration.
 - Common maintenance terminology.
 - No serial number changes.
 - Identify line replacement units and printed circuit boards when removed.
 - Calibrate test, measurement, and diagnostic equipment (TMDE).
 - Integrate quality control.
 - Reduce services for low usage equipment.
-

Levels of
Maintenance

The Army Maintenance Management System, less aircraft, consists of four levels. They are:

- Unit.
 - Direct Support (DS).
 - General Support (GS).
 - Depot.
-

Characteristics
of Unit Level
Maintenance

Unit maintenance is the first and most critical level of the Army maintenance system. It is the foundation of the maintenance system and requires continuous emphasis by all commanders. Commanders must establish a command climate that supports the concept of “one maintenance standard for the Army”, for all assigned equipment. Commanders are responsible for providing resources, assigning responsibility, and training their soldiers to achieve this standard.

The cornerstone of unit maintenance is the operator/crew performing PMCS from the applicable TM-10 series. The before and during PMCS checks concentrate on ensuring equipment is fully mission capable.

Maintenance operations normally assigned to unit maintenance include the following:

LS/A 1, ELO 1

Characteristics
of Unit Level
Maintenance,
continued

- Operators/crews perform PMCS.
- Inspections by sight and touch of external and other easily accessible components per TM-10 and-20 series.
- Lubricating, cleaning, preserving (to include spot painting), tightening, replacement, and minor adjustments authorized by the Maintenance Allocation Chart (MAC).
- Diagnosis and fault isolation as authorized by the MAC.
- Replacement of unserviceable parts, modules, and assemblies as authorized by the MAC.
- Requisition, receipt, storage, and issue of repair parts.
- Verification of faults and level of repair of unserviceable material prior to evacuation.
- Materiel readiness reporting per AR 700-138.
- Accomplishment of all tasks required by the AOAP.
- Evacuation to the appropriate maintenance support activity of unserviceable repairables.

Characteristics
of Direct
Support
Maintenance

The characteristics of DS maintenance are:

- One-stop service to supported units.
- Highly mobile, weapon-system-oriented maintenance.
- Backup support to unit level maintenance.

Characteristics
of General
Support
Maintenance

The characteristics of general support maintenance are:

- Commodity oriented repair in support of the theater supply system.
- Backup maintenance support to DS units.
- Capabilities to task organize to meet special requirements.
- Location at echelons above Corps.

LS/A 1, ELO 1 Characteristics of Depot Level Maintenance	<p>AR 750-2 provides detailed guidance on depot level maintenance.</p> <ul style="list-style-type: none"> • Supports both the combat forces and the Army supply system. • Will provide technical support and backup to DS and GS maintenance units. • Provides combat ready materiel to the Army supply system. • TDA industrial type activities operated by the Army will normally perform DS maintenance.
The Army Oil Analysis Program	<p>The objectives of the Army Oil Analysis Program (AOAP) are:</p> <ul style="list-style-type: none"> • Improve operational readiness of equipment. • Promote safety. • Detect impending component failures. • Conserve lubricating and hydraulic oils.
The Army Warranty Program	<p>AR 700-139 governs maintenance of materiel under warranty. Some provisions of the Army Warranty Program are:</p> <ul style="list-style-type: none"> • Report warranty actions in accordance with DA Pams 738-750 and 738-751. • <i>Unit readiness and mission effectiveness will take priority over warranty actions.</i> • An items warranty will specify the Oil Analysis Program. • The Logistics assistance program will provide assistance to units with this program. • Manufacturers standard warranties accepted for items locally procured.

LS/A 1, ELO 1 The Maintenance Float Program	<p>There are two types of floats; repair cycle float (RCF), and the operational readiness float (ORF). The purpose of the float system:</p> <ul style="list-style-type: none"> • Assists readiness posture of units in peacetime. • Selected end items authorized for stockage. • Used to replace like items to maintain an acceptable level of readiness.
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Battle Damage Assessment and Repair	<p>The purpose of BDAR is to rapidly return disabled equipment to combat or to enable the equipment to self-recover.</p> <p>BDAR is the commander's responsibility, based on METT-T. The operator/crew and unit/DS maintenance personnel accomplish the BDAR mission. Realistic training must be performed during peacetime to ensure wartime proficiency.</p>
Maintenance of Nontactical Vehicles	<p>Authorized maintenance may be accomplished in transportation motor pool shops, IMMA, local commercial shops, or other Government-maintenance activities as jointly determined by the motor pool manager and the IMO. In all cases, use warranties to the maximum extent possible.</p>
Organizational Clothing and Equipment (OCIE)	<p>You need to inspect all OCIE issued to soldiers to determine serviceability IAW AR 700-84 and DA Pam 710-2-1. The individual assigned the organizational clothing or equipment will perform all normal maintenance, that is, maintenance that a soldier could reasonably perform in the unit. The maintenance includes cleaning, spot removal, repair of tears or rips, and replacement of buttons. Other considerations pertaining to OCIE are:</p> <ul style="list-style-type: none">• Turn in items beyond organizational repair.• USPFO may authorize local contracts for maintenance of clothing and equipment for the Army National Guard (ARNG).• Major alterations require prior approval.• Limited authorization for laundry/dry cleaning.

ELO 2

Action:	Identify the purpose of the records used in the Army Maintenance Management System.
Conditions:	as a first sergeant in a classroom environment, given an extract of DA Pam 738-750 (SH-2).
Standard:	Identified the purpose of the records used in the Army Maintenance Management System IAW SH-2.

LS/A 1, ELO 2

- Read ELO 2 above.
 - Study the following reading assignment.
 - Study Student Handout 2.
 - Complete Learning Exercise 1, Questions 10-13, Appendix B.
 - Compare your responses with the solution found in the SLE-1.
 - If your response does not agree with the answer in the solution discussion, review the reading assignment, and SH-2.
-

LS/A 1, ELO 2Operational
Records

A good records system is the heart of an effective maintenance program. What is the purpose of Operational records?

They provide the information needed to control equipment; help plan, manage, and put the equipment and personnel to the best use.

Maintenance
Records

Maintenance records:

- Control maintenance schedules, services, inspections, and repair workloads.
- Used to report, ask for, and record repair work.
- Maintain the status of equipment for readiness, warranty, equipment use, and logistics reports.

Equipment
Historical
Records

Historical records are permanent forms on the receipt, operation, maintenance, modification, transfer, and disposal of individual items of equipment.

LS/A 1, ELO 2 Responsibilities of the Dispatcher	<p>Dispatching is the method by which a commander controls the use of equipment. However, allowing the use of equipment carries with it the responsibility for both the equipment and the operator's safety. Commanders insure that dispatching procedures are understood and followed. The dispatcher:</p> <ul style="list-style-type: none"> • Fills requests for equipment. • Checks operator's OF 346 or DA Form 5984-E. • Issues/collects equipment record folder. • Ensures forms have correct entries. • Logs equipment in and out on DA Form 2401. • Makes required entries on DD Form 1970. • Reports equipment faults to maintenance personnel. • Reports differences in stated and actual destinations. • Notes services/update DA Form 5823.
DD Form 1970	<p>The purpose of the DD Form 1970 is to provide a record of motor equipment use and you use it:</p> <ul style="list-style-type: none"> • To control the use of vehicles and equipment. • To record operating time of equipment. • To record varying periods of time depending on equipment and its use. • For control purposes of administrative, engineering, and housing motor pools that do not have AADP support. • To control equipment going to support maintenance. • To record low use equipment and equipment in storage.
DA Form 2401	<p>The purpose of the DA Form 2401 is to provide a record of operators and location of equipment on dispatch or in use, and you will use it:</p> <ul style="list-style-type: none"> • To note the dispatch or use of equipment. • To tell commander who is requesting equipment and using equipment. • To tell commander the location of equipment, and when it should return.

LS/A 1, ELO 2 The DD Form 314 is a record of scheduled and performed unit maintenance lubrication services and oil samples. It also keeps up with not mission capable time. Some of the common uses of the DD 314 are:

DD Form 314

- Show completed services.
- Show Non Mission Capable days (NMC).
- Show system NMC time.
- Schedule oil samples.
- Manage maintenance/services/inspections.
- Maintain warranty information.

ELO 3

Action:	Identify the Unit Level Logistics System (ULLS).
Conditions:	As a first sergeant in a classroom environment, given SH-2.
Standard:	Identified the Unit Level Logistics System (ULLS) IAW SH-2.

- LS/A 1, ELO 3**
- Read ELO 3 above.
 - Study Student Handout 2, pages SH-2-6 and SH-2-7 at Appendix C.
 - Complete Learning Exercise 1, Question 14, Appendix B.
 - Compare your response with the solution found in the SLE-1.
 - If your response does not agree with the answer in the solution discussion, review the Student Handout at Appendix C.

ELO 4

Action:	Identify the responsibilities of the commander and leaders concerning safety.
Conditions:	As a first sergeant in a classroom environment, given an extract of FM 4-30.3 (SH-3).
Standard:	Identified the responsibilities of the commander and leaders concerning safety IAW SH-3.

-
- LS/A 1, ELO 4**
- Read ELO 4 above.
 - Study Student Handout 3 at Appendix C.
 - Complete Learning Exercise 1, Question 15, Appendix B.
 - Compare your response with the solution found in the SLE-1 solution/discussion following the next Student Reading.
 - If your response does not agree with the answer in the solution discussion, review the Student Handout at Appendix C.
-

SECTION IV SUMMARY

Review/ Summarize Lesson	We have looked at some of the responsibilities of company commanders and first sergeants. As a first sergeant you are responsible for ensuring that your soldiers have the resources, supervision, and time they need to maintain their equipment in a fully mission capable status.
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Check on Learning	If your completed lesson exercises do not agree with the suggested solution, be sure to review the student handouts.
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Transition to Next Lesson	None.
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SECTION V STUDENT EVALUATION

Testing Requirements	Before entering Phase II, you will receive the end of Phase I Performance Examination that will include questions based on material in this lesson. On that examination, you must answer at least 70 percent of the questions correctly to achieve a GO.
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SECTION VI QUESTIONNAIRE

Directions

Complete the following actions:

Enter your name, rank and the date you complete this questionnaire.

Name:

Rank:

Date:

- Answer items 1 through 6 below. Use additional pages if necessary.
- Fold the questionnaire so the address for USASMA is visible.
- Print your return address, add postage, and mail.

Note: Your response to this questionnaire will assist the Academy in refining and improving this course. When completing the questionnaire, answer each question frankly. Your assistance helps build and maintain the best Academy curriculum possible.

Item 1	Do you feel you have met the learning objectives of this lesson?
Item 2	Was the material covered in this lesson new to you?
Item 3	Which parts of this lesson were most helpful to you in learning the objectives?
Item 4	How could we improve the format of this lesson?
Item 5	How could we improve the content of this lesson?
Item 6	Do you have additional questions or comments? If you do, please list them here. You may add additional pages if necessary

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FORT BLISS, TX 79918-8002

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APPENDIX B**Index of Lesson Exercises and Solutions**

**This
Appendix
Contains**

This Appendix contains the items listed in this table---

Title/Synopsis	Pages
LE-1, Lesson Exercise	LE-1-1 thru LE-1-3
SLE-1, Solution/Discussion, Lesson Exercise	SLE-1-1

Lesson Exercise 1

1. Responsibilities of commanders and leaders include emphasizing the importance of maintenance and _____.
 - A. Evaluating the maintenance program.
 - B. Evaluating AOAP procedures.
 - C. Helping the motor sergeant get repair parts.
 - D. Holding subordinates accountable.
2. How many maintenance standards does the Army have?
 - A. One.
 - B. Two.
 - C. Three.
 - D. Four.
3. What is a characteristic of unit level maintenance?
 - A. It provides highly mobile, weapon-system oriented maintenance.
 - B. It provides one-step service to supported units.
 - C. The mechanics use TM -10 and -20 series.
 - D. The mechanics use TM -10 and -30 series.
4. What is a characteristic of general support maintenance?
 - A. A TDA unit performs the maintenance.
 - B. It provides one-step service to supported units.
 - C. It supports both combat forces and the Army supply system.
 - D. Its location is at echelon above corps.
5. Two objectives of the Army Oil Analysis Program, outlined in AR 750-1, are to detect impending component failures and to _____.
 - A. Give DS units work.
 - B. Improve maintenance response.
 - C. Make sure everyone is using OE 30 oil.
 - D. Promote safety.
6. What publication governs maintenance of material under warranty?
 - A. AR 670-1.
 - B. AR 700-139.
 - C. FM 22-5.
 - D. FM 9-43-1.

7. The two types of maintenance floats are operational readiness float (ORF) and _____.
 - A. Repair cycle float (RCF).
 - B. Return cannibalization float (RCF).
 - C. Return completed float (RCF).
 - D. Return fixed float (RFF).
8. The purpose of battlefield damage assessment and repair is to rapidly return equipment to combat or _____.
 - A. Destroy it in place.
 - B. Disable it so enemy can't use it.
 - C. Enable equipment to self-recover.
 - D. Have the maintenance crew tow it away.
9. Who performs the first level of maintenance tasks on nontactical vehicles?
 - A. Maintenance technician.
 - B. Master gunner.
 - C. Operator/crew.
 - D. Unit mechanic.
10. Maintenance records control maintenance schedules and services, workloads, and _____.
 - A. Equipment available for field duty.
 - B. Inspections.
 - C. PLL repair parts.
 - D. Vehicle dispatches.
11. The dispatcher is responsible for checking operator's OF 346 or DA Form 5984-E and _____.
 - A. Logging equipment in and out of DA Form 1970.
 - B. Making requests for equipment.
 - C. Reporting differences in stated and actual destinations.
 - D. PLL repair parts.
12. DD Form 1970 (Motor Equipment Utilization Record) controls the use of vehicle equipment and _____.
 - A. Determines AOAP dates.
 - B. Determines service dates.
 - C. Records PMCS dates.
 - D. Records total operating time of equipment.
13. DA Form 2401 (Organizational Control Record for Equipment) is a record of _____ of equipment on dispatch or in use.
 - A. Operators and location.
 - B. Operators and type.
 - C. Type and amount.
 - D. Type and unit of origin.

14. The purpose of the Unit Level Logistics System (ULLS) is to collect maintenance and supply data, provide management information at the unit level and to _____?
- A. Eliminate portions of The Army Maintenance Management Program (TAMMS).
 - B. Automate/replace portions of TAMMS.
 - C. Automate PMCS procedures.
 - D. Replace TAMMS with TULLS.
15. To support the unit safety program, the commander must?
- A. Appoint a unit safety officer.
 - B. Conduct safety seminars on post.
 - C. Make safety pledges.
 - D. Make safety slogans.

Solution/Discussion to Lesson Exercise 1

1. D. Holding subordinates accountable.

Ref: AR 750-1, para 2-28a, SH-1-1

2. A. One.

Ref: AR 750-1, para 3-1a, SH-1-2

3. C. The mechanics use TM -10 and -20 series.

Ref: AR 750-1, para 3-9c, SH-1-4

4. D. Its location is at echelon above corps.

Ref: AR 750-1, para 3-11a (4), SH-1-6

5. D. Promote safety.

Ref: AR 750-1, para 4-36, SH-1-7

6. B. AR 700-139.

Ref: AR 750-1, para 4-37a, SH-1-9

7. A. Repair cycle float.

Ref: AR 750-1, para 4-39a, SH-1-9 thru SH-1-10

8. C. Enable equipment to self-recover.

Ref: AR 750-1, 4-40a, SH-1-10

9. C. Operator/crew.

Ref: AR 750-1, para 5-40b, SH-1-10

10. B. Inspections.

Ref: DA Pam 738-750, para 1-5b, SH-2-1

11. C. Reporting differences in stated and actual destinations.

Ref: DA Pam 738-750, para 2-2c(8) , SH-2-1

12. D. Records total operating time of equipment.

Ref: DA Pam 738-750, para 2-5b(1), SH-2-1

13. A. Operators and location.

Ref: DA Pam 738-750, para 2-6a, SH-2-3

14. B. Automate/replace portions of TAMMS.

Ref: DA Pam 738-750, para 12-1b, SH-2-6

15. A. Appointing a unit safety officer.

Ref: FM 4-30.3, para 8-6, SH-3-2

APPENDIX C

Index of Student Handouts

**This
Appendix
Contains**

This Appendix contains the items listed in this table---

Title/Synopsis	Pages
SH-1, Material extracted from AR 750-1, Army Material Maintenance Policy and Retail Maintenance Operations	SH-1-1 thru SH-1-10
SH-2, Material extracted from DA Pam 738-750, Functional Users Manual for the Army Maintenance Management System (TAMMS)	SH-2-1 thru SH-2-7
SH-3, Material extracted form FM 3-40.3, Maintenance Operations	SH-3-1 thru SH-3-5

STUDENT HANDOUT 1

Only the material that pertains to this lesson is extracted from AR 750-1.

Chapter 1

Introduction

1. Purpose

This regulation establishes policies and assigns responsibilities for the maintenance of Army materiel. It provides and defines requirements for performance and management of the materiel maintenance function. It concerns unit, direct, support (DS), and general support (GS) levels of the Army maintenance system, and Army-wide program and commodity unique maintenance. This regulation also applies to the following:

a. The maintenance of all materiel owned or supported by the U.S. Army except the following:

(1) Materiel purchased with nonappropriated funds, special intelligence property administered per AR 381-143, real property, materiel used by civil works activities of the Corps of Engineers, or foreign materiel used for training.

(2) Government furnished materiel (GFM) used at Government owned, contractor-operated (GOCO) plants or used by contractors performing commercial activities (CA) contracts. GFM is governed by the Federal Acquisition Regulation (FAR).

(3) Leased/rented materiel unless the lease/rental agreement indicates otherwise.

2-28. Commanders at all levels

Commanders at all levels will-

- a. Emphasize the importance of maintenance and ensure that subordinates are held accountable for the conduct of maintenance operations. Maintenance is a command responsibility.
- b. Provide leadership, technical supervision, and management control of materiel maintenance programs of subordinate commands and activities.
- c. Emphasize the conduct and supervision of PMCS performed at the unit level. Materiel will be maintained

at the maintenance standard specified in paragraph 3-1a.

d. Develop and sustain a high degree of maintenance discipline within their commands. This includes management-of repair parts per AR 710-2.

e. Establish, maintain, and conduct training of operators and crews to properly use and maintain equipment.

f. Establish, maintain, and conduct training of leaders at all levels to properly supervise maintenance operations and to motivate subordinates to properly and safely use and maintain equipment.

g. Exercise management controls sufficient to ensure prudent and efficient utilization of all resources (people, money, materiel, and time) required to perform assigned maintenance missions.

h. Conduct inspections and staff visits to determine the adequacy of command maintenance operations. Document all faults to ensure that corrective actions are taken and to ensure the accuracy of readiness reports.

i. Provide materiel maintenance support to all assigned units and activities.

j. Recommend improvements to the Army maintenance system.

k. Comply with the provisions of AR 750-43 for all TMDE used in support of maintenance operations.

l. Ensure that the submissions quality deficiency reports (QDRs) and equipment improvement recommendations (EIRs) are accomplished per DA Pam 738-750 (ground support and watercraft) or DA Pam 738-751 (aircraft/aviation equipment).

m. Encourage the establishment of an aggressive awards program for operators and maintainers.

n. Implement an effective quality program per AR 70-1 and AR 70-2. Quality programs will be defined, quantified, specified, measured and assessed.

o. Ensure that all unit level PMCS as required by the -20 level TMs to include all DS level services are scheduled and performed.

p. Ensure prompt compliance with requirements dictated by safety-of-use messages.

q. Ensure that sufficient numbers of personnel are trained in various BDAR skills so that combat resilience requirements can be met in wartime operations.

r. Support the SDC program, when implemented, by providing proponent agency contractor personnel with reasonable access to equipment and data relevant to the SDC project.

Chapter 3

Maintenance Policies and Structure

Section I

General Policies

3-1. General maintenance policies .

a. The Army has one maintenance standard. The maintenance standard is based on TM 10 and 20-series, PMCS. This standard applies to all equipment except equipment utilized as training aids and frequently disassembled and assembled for instructional purposes. This equipment will be maintained as training aids per paragraph 5-44. The maintenance standard is the condition of the equipment when-

(1) The equipment is fully mission capable.

(2) All faults are identified following prescribed intervals using the "items to be checked" column of the applicable TM:10 and 20-series:PMCS table. Aviation faults are determined by using the aircraft preventive, maintenance inspection system (PMIS).per TM 1-1500-328-23 and-

(a) Corrective actions that are authorized to be accomplished at unit level and for which the required parts are available are completed.

(b) Parts required to complete the corrective actions but which are not available are on valid funded requests.

(c) Corrective actions that are authorized to be accomplished at a maintenance level above the unit are on a valid DS maintenance request.

(3) Equipment services are performed within the scheduled service interval.

(4) All urgent and limited urgent MWOs are applied. Additionally, one-time safety-of-use messages and

emergency safety-of-flight messages are applied to aircraft.

(5) All authorized BII and COEI are present and serviceable, or on a valid funded request.

b. Proper use, care, handling, and conservation of materiel per applicable TMs or commercial manuals is mandatory.

c. A commissioned officer, warrant officer, or civilian equivalent qualified in maintenance will be appointed in writing at each level of command to provide staff supervision of materiel maintenance within the command. In MTOE units where there is only one commissioned or warrant officer, a qualified non-commissioned officer may be appointed.

d. Maintenance standing operating procedures (SOPs) will be established and maintained by all Army organizations and activities performing maintenance.

e. Maintenance support programs will be structured to meet materiel system readiness objectives as defined by AR 700-138.

f. Materiel maintenance management will be directed toward a weapon system and/or materiel end item.

g. The top design priorities in the development of new-weapon and equipment end items are modular design and discard at failure instead of repair. These design features will minimize repair time and the need for additional special tools by allowing for simple fault diagnosis and component replacement.

h. Repair on site, whenever possible, using the lowest level maintenance activity that has the capability and authority to perform the work. Repair forward will minimize repair times by minimizing evacuation of materiel.

i. Maintenance will be performed by military personnel in areas forward of the corps rear boundary. Contractors/contracted maintenance will not normally be allowed for unit or DS levels of maintenance. It is Army policy that equipment issued to troops in TOE units will be maintained by soldiers at unit and DS levels. Exceptions to this policy will be approved by HQDA. Contractor maintenance personnel will not be permanently stationed forward of the corps rear boundary. Contractor maintenance personnel may travel forward of the corps rear boundary on a case-by-case basis as individual equipment failures occur to provide temporary on-site maintenance. Behind the corps rear, boundary, in addition to military personnel,

the use of civilian maintenance personnel (contract, TDA, local nationals, and so forth) may be acceptable as a prudent risk.

j. Limits on available time to repair at each level of maintenance drives the evacuation policy. Repair time guidelines contained in doctrinal publications must be used with caution. Repair/evacuation times, in turn, drive the placement of each task in the MAC and eventually the requirements for personnel, equipment, and overall force structure.

k. MACOMs have authority to authorize fabrication of repair parts and components that cannot be provided by the requester's required delivery date (RDD). The approving MACOM will provide funds for this fabrication. This excludes components critical to flight safety.

l. Modification or alteration of Army materiel is forbidden, except as authorized by the Interim Operation Instructions (IO) for Army Materiel Change Management (MCM).

m. HQDA (DALO-SM) will coordinate with the Office of the Secretary of Defense (OSD) and other military departments and services to develop common maintenance terminology and data for use in maintenance management documents.

n. The serial number assigned to an end item or component will not be changed, regardless of changes in configuration, without written approval by the item manager.

o. Line replacement units (LRUs) and printed circuit boards (PCBs) will be identified when removed from major end items of components of the end item. Procedures are in DA Pam 738-750 and DA-Pam 738-751.

p. TMDE will be calibrated per DA TMDE calibration' and repair support program. See AR 750-43 for detailed guidance.

q. Quality control must be fully integrated into maintenance operations to ensure-

(1) The identification of equipment faults.

(2) Compliance with repair procedures and equipment standards contained in the TMs and commercial publications

r. Equipment that accumulates less than a specified number of miles/kilometers or hours in a one year

period may have reduced services applied. Criteria and management of low usage equipment are defined in - DA Pam 738-750.

s. The maintenance of supplies and equipment issued to USAR units and activities will be achieved by providing for- -

(1) Maximum utilization of units in performance of their MTOE authorized missions.

(2) The use of AMSAs, the maintenance branch of the ECS when in the roll of support maintenance (unit/limited DS), and the ASSF when in the roll of limited AVIM. This expanded mission will be authorized by the USARC (ATTN: AFRC-LGS-M) or by the CG, USARPAC, and is based upon available manpower, facilities, and/or resources. Parent MUSARCs are held accountable for excessive backlog (not to exceed 21 days of unit maintenance). Priority will be given to unit level maintenance when backlog exceeds 21 days. EMM will be approved by DALOSMM and included in appendix B.

(3) Establishment by USARC of CONUS USAR maintenance support policies. Applicable commanders in chief (CINC) of OCONUS USARC units will establish maintenance support policies.

(4) Support agreements with other DOD activities and Government agencies.

3-8. The Army maintenance system

a. The Army maintenance system, less aircraft, consists of four levels. They are unit, DS, GS, and depot levels. Aircraft maintenance consists of three levels: unit (AVUM), intermediate (AVIM) and depot.

b. The MAC is the primary tool for assigning tasks within the levels of the Army maintenance system. All new and revised MACs are coordinated with the proponent (TRADOC school), and submitted to HQDA (DALOLSMM) for final approval prior to publication. When directed by HQDA (DALO-SMM), AMC staffs the MAC with user MACOMs for comment.

3-9. Unit level maintenance

a: Unit maintenance is the first and most critical level of the Army maintenance system. It is the foundation of the maintenance system and requires continuous emphasis by all commanders. Commanders must establish a command climate that ensures that assigned equipment is maintained to the maintenance standard

defined in paragraph 3-1a above. Commanders are responsible for providing resources, assigning responsibility, and training their soldiers to achieve this standard.

b. The cornerstone of unit maintenance is the operator/crew performing PMCS from the applicable TM 10-series. The before and during PMCS checks concentrate on ensuring equipment is fully mission capable (FMC). Faults detected during before operations checks that make the equipment not FMC or violate a safety directive must be corrected before the mission. Faults detected during the mission affecting FMC must be corrected during the mission. Faults detected before or during the mission not affecting FMC may be corrected, if time permits, or recorded/reported for correction after the mission. After operations checks detect faults resulting from the mission and ensure the identification and correction of faults to maintain the equipment to the maintenance standard.

c. Unit mechanics will use the TM 10- and 20-series to identify and correct faults. The TM 20-series PMCS tables are used: to perform scheduled PMCS services that sustain and extend the combat capable time of the equipment.

d. Maintenance operations normally assigned to unit maintenance include the following:

(1) Performance of PMCS.

(2) Inspections by sight and touch of external and other easily accessible components per the TM 10- and 20-series.

(3) Lubrication, cleaning, preserving (to include spot painting), tightening, replacement, and minor adjustments authorized by the MAC.

(4) Diagnosis and fault isolation as authorized by the MAC.

(5) Replacement of unserviceable parts, modules, and assemblies as authorized by the MAC.

(6) Requisition, receipt, storage, and issue of repair parts.

(7) Verification of faults and level of repair of unserviceable materiel prior to evacuation.

(8) Evacuation to the appropriate maintenance support activity of unserviceable repairables beyond the MAC authorization to correct/repair.

(9) Recovery or transportation of equipment to and from the supporting maintenance activity.

(10) Accomplishment of all tasks required by the AOAP.

(11) Materiel readiness reporting per AR 700-138.

e. Performance of unit level maintenance will be documented using the forms and records as described in DA Pam 738-750 and DA Pam 738-751. This information is used to assist commanders in establishing, monitoring, and evaluating their maintenance program. In addition to the regulatory guidance in this publication, doctrinal and technical guidance for unit level maintenance operations is found in DA Pam 750-35 and DA Pam 750-1.

f. OMSs in the ARNG will provide unit maintenance that is beyond the capabilities of owning units. Owning units will perform unit maintenance, to include scheduled services, within the constraints imposed by IDT and AT periods. Unit commanders will advise supporting OMS foremen of unit maintenance requirements that are beyond their unit's capability. OMSs will perform the following maintenance functions for surface equipment:

(1) Maintain liaison with supported unit commanders.

(2) Schedule maintenance services, when feasible, to coincide with quarterly and semiannual services.

(3) Service all equipment issued under warranty as specified in the manufacturer's service manual or materiel fielding plan.

(4) Maintain authorized repair parts and supplies.

(5) Furnish contact teams to perform unit maintenance and inspection, to include unit equipment located at high concentration training sites (HCTSs) or low concentration training sites (LCTSs) without a maintenance capability, when this procedure would be more economical than scheduling equipment into the shop.

(6) Provide backup unit maintenance that is beyond the capabilities of units using training sites. Provide administrative and operational control support for assigned unit assets to include readiness reporting to parent organizations.

(7) Perform DS maintenance when authorized by the SMM.

(8) Equipment evacuation. Equipment evacuation is handled as follows:

(a) Process and evacuate equipment to CSMS/MATES when required. Movement of this equipment will be supported by unit personnel.

(b) Movement of equipment to OMS requiring unit maintenance/repairs will be supported by unit personnel.

g. The operation and supervision of an organizational maintenance sub shop (OMSS) is the responsibility of the parent OMS.

h. UTES, in the ARNG, is an activity authorized to perform in-storage unit maintenance and, when authorized by the SMM, limited DS maintenance. The UTES is under the control and supervision of the SMM. This activity will perform the following functions:

(1) Maintain and secure major items of equipment positioned at the UTES.

(2) Accomplish the required in-storage unit, and limited DS maintenance, on all organic and hand-receipted equipment positioned at the UTES.

(3) Maintain BII, COEI, and ITIA or an authorized, or additional, authorized list (AAL) required by each owning unit for all major items of equipment positioned at the UTES.

(4) Requisition, stock, maintain, and issue unit level class IX items in support of the equipment positioned at the UTES.

(5) Submit DA Form 2407 to the CSMS for all DS and GS maintenance requirements for organic and hand-receipted equipment positioned at the UTES. The UTES foreman or a formally designated representative will sign each DA Form 2407 submitted with a priority of 03 through 10.

(6) Prepare a DA Form 2406 for each unit positioning equipment at the UTES per AR 700-138.

(7) Ensure that complete TAMMS forms are submitted to the property book officer (PBO) and automatic data processing (ADP) activity.

i. The MATES is an ARNG TDA maintenance facility which, when co-located with a CSMS, provides full-time unit level support on ARNG equipment assigned to the site. When a MATES is not co-located with a

CSMS, the MATES provides unit, DS, and GS level support to assigned equipment and units. The MATES provides support in the conduct of maintenance training. MATES operations are outlined in NGR 750-2.

j. USAR AMSAs have been established to perform unit level maintenance which is beyond the Army Reserve commander's capability or authorization to perform during scheduled training assemblies. Geographical support boundaries are assigned by the parent MUSARC with USARC final approval. The AMSAs are designated as AMSA (G) for ground support equipment, AMSA(W) for watercraft, or AMSA (G/W) for ground and watercraft.

k. ECSs have a maintenance branch with an area support mission and a storage branch for that equipment beyond the capability of the owning unit commander to store, maintain, or utilize at home station. Preference for storage location should be at unit's mobilization or annual training site to minimize transportation costs and time delays during mobilization.

l. Maintenance activities may be authorized by USARC to perform limited DS level maintenance.

3-10. DS maintenance

a. DS maintenance is characterized by-

(1) One-stop service to supported units.

(2) Highly mobile, weapon-system-oriented maintenance.

(3) Backup support to unit level maintenance.

b. Divisional maintenance units will support organic elements of the division. Attached units are required to coordinate with the parent units for support. Non-divisional maintenance units will provide support on an area basis and backup support to divisional DS units.

c. DS units may grant authority to supported units to perform the next higher level of repair if the supported unit has the capability and capacity to perform the repair.

d. Non-divisional DS maintenance units will be assigned installation maintenance missions to ensure unit mission capability is maintained. These assignments will be approved and monitored by the installation materiel maintenance officer (IMMO).

e. MTOE DS maintenance personnel may perform duties of TDA maintenance activities to maintain skills and update MOS training.

f. All MTOE DS maintenance units will be provided adequate capability for furnishing on-site technical advice and maintenance support.

g. DS maintenance personnel will perform technical inspections of Class II, VII, and IX materiel to determine serviceability and completeness.

h. DS units will be the primary reentry point for unserviceable repairable Class IX materiel to the supply support activity.

i. Operations assigned to DS units will normally include the following:

(1) Inspection of all items to-

(a) Verify serviceability of the item.

(b) Determine if unserviceable items were rendered unserviceable due to other than fair wear and tear. (FWT). If negligence or willful misconduct is suspected, repair will not be made until a release statement is received per AR 735-5.

(c) Determine economic repairability.

(2) Repair of unserviceable economically repairable end items per MACs. These will be repaired and returned to the user.

(3) Repair of all economically repairable components when MAC F coded level repair will return the items to a serviceable condition. These items will be repaired and returned to the requesting maintenance or supply activity.

(4) Provision of proactive materiel readiness and technical assistance of unit maintenance elements including-

(a) Visits to supported units on a regular basis.

(b) Advice to supported units in proper methods for performing maintenance and related logistics support.

(c) Coordination with supported units to perform technical inspection when requested.

(d) On-site assistance to supported units.

(5) Diagnosis and isolation of materiel or module malfunctions, adjustment, and alignment of modules that can be readily completed with assigned tools and TMDE.

(6) Performance of light body repair to include straightening, welding, sanding, and painting of skirts, fenders, body, and hull sections when required to stop corrosion or retain structural integrity.

(7) Evacuation of economically repairable end items to designated maintenance facilities when repair is beyond authorized capability or capacity. Evacuation and return after repair will be through maintenance channels.

(8) Evacuation of maintenance repair code D, H, and L economically repairable components to the supporting supply activity if repairs are beyond MAC F coded repairs.

(9) Evacuation of economically repairable components that can be returned to a serviceable condition using MAC F level repair to designated maintenance facilities when repair is beyond capability or capacity. Evacuation and return after repair will be through maintenance channels.

(10) Provide backup DS maintenance support to other DS units and request backup support from other DS and GS units as required.

(11) Fabrication as identified by the appropriate technical manual.

3-11. GS maintenance

a. GS maintenance is characterized by-

(1) Commodity oriented repair of components and end items in support of the theater supply system.

(2) Backup maintenance support to DS units.

(3) Job shop/bay or production line operations with the capability to task organize to meet special mission requirements:

(4) Location at echelons above corps.

b. GS units may grant authority to supported units to perform the next higher level of repair if the supported unit has the capability and capacity to perform the repair.

c. Nondivisional GS maintenance units will be assigned installation maintenance missions to ensure unit mission capability is maintained. These assignments will be approved and monitored by the IMMO.

d. MTOE GS maintenance personnel may perform duties at TDA maintenance activities to maintain skills and update MOS training.

e. All MTOE GS maintenance units will be provided adequate capability for furnishing onsite technical advice and maintenance support.

f. GS maintenance personnel will perform technical inspections of Class II, VII, and IX materiel to determine serviceability and completeness.

g. Operations assigned to GS level will normally include the following:

- (1) Diagnosis, isolation, and repair of faults within-modules/ components per MACs.
- (2) Repair of selected LRUs and PCBs per the MACs.
- (3) Performance of heavy body, hull, turret, and frame repair per the MACs.
- (4) Area maintenance support, to include technical assistance and onsite maintenance as required or requested.
- (5) Collection and classification of Class VII materiel (less aircraft, ammunition, missiles and medical materiel) for proper disposition.
- (6) Operation of cannibalization points, when authorized by MACOM commanders (AR 710-2).
- (7) Evacuation of unserviceable end items and components, through the appropriate supply support activity.
- (8) Fabrication or manufacture of repair parts, assemblies, components, jigs, and fixtures when approved by the MACOM.
- (9) Request for backup support as required.

3-14. Depot level maintenance.

a. Detailed policy and guidance for depot level-maintenance is located in AR 750-2.

b. Depot level maintenance will support both the combat forces and the Army supply system as shown below

(1) Depot level maintenance will provide technical support and backup to DS and GS maintenance units. A joint decisions required between the theater Army (TA) commander, and CG; AMC to determine the relationship of AMC supply and maintenance activities with the theater commander in peacetime.

(2) In wartime, the theater commander assumes control of depot level maintenance operations- in the theater-of operations.

(3) Depot level maintenance provides-combat ready materiel to the Army supply system.

c. Depot level maintenance will normally be performed by TDA industrial-type activities operated by the Army. Depot level maintenance may also be performed by contract, ISA; and interdepartmental or interagency agreement.

d. Depot level repairs may be authorized, in writing, for the next lower level of maintenance. This is a one-time, non-recurring-authorization and is based on the lower level's capability and capacity. The responsible NMP will grant the authorization. The cost is direct funded by the requesting MACOM.

e. A forward repair activity (FRA) is an AMC resourced, directed, and controlled activity, operated by contractor or organic personnel, which provides depot level support forward of the depot. Where possible, FRAs will provide support for multiple weapon systems or commodities. The policies for depot repairable accountability (turn-in and requisition, and Defense Business Operating Fund Supply and Maintenance Army (DBOF-SMA)) apply to FRAs.

4-36. Army Oil Analysis Program.(AOAP)

The objectives of the AOAP are to improve operational readiness of Army equipment, promote safety, detect impending component failures, and conserve lubricating and hydraulic oils by applying on condition oil changes.

a. The CG, AMC is the executive agent for the AOAP. Approval of all policy pertaining to the AOAP rests with the DCSLOG. In addition, the CG, AMC will-

- (1) Exercise program management over the AOAP -

(2) Ensure that the U.S. Army Aviation and Troop Command (ATCOM), as the AOAP equipment manager, funds and procures laboratory equipment.

(3) Ensure that AMC major subordinate commands

(a) Recommend systems for inclusion in the AOAP and sampling intervals for these systems.

(b) Configure systems to use oil sampling valves where feasible.

(4) Provide the DA Program Director, Army Oil Analysis Program, who will-

(a) Provide management guidance, technical supervision, and assistance to all Army activities-regarding the AOAP.

(b) Conduct annual unannounced laboratory assistance and assessment review (LAAR) visits to monitor laboratory operations.

(c) Serve as the functional manager for the AOAP Standard Data System, as prescribed in AR 25-3 and DA Pam 25-6.

(d) Serve as the executive agent of the depot oil analysis program.

(e) Ensure compliance with the Joint Oil Analysis Program (JOAP) as specified in AR 700-132.

(f) Approve weapon systems and end items recommended for inclusion in the AOAP.

(g) Approve sampling intervals.

(h) Develop and maintain component wear-metal evaluation criteria for systems in the AOAP; ensures that criteria are published in the proper laboratory technical manuals.

(i) Plan and coordinate research and development to improve oil analysis techniques.

(j) Prepares and update the AOAP 5-Year Program Plan (RCS CSGD-1944). Coordinate resources prior to redistribution of workload.

(k) Develop and maintain a prototype performance work statement for use in solicitation documents for the contract operation of AOAP laboratories. The program director will also assist in the review of contractor bids and proposals and evaluate the

qualifications of contractor personnel to satisfy the terms of the contract.

(l) In coordination with the Joint Oil Analysis Program, Technical Support Center (JOAP-TSC), ensure that the procedures prescribed in the JOAP laboratory manual regarding certification of equipment and personnel are compatible with established requirements for AOAP laboratories.

(m) Ensure that all AOAP laboratories meet and maintain requirements for certification prescribed in the AOAP laboratory manual.

(n) Serve as technical adviser for the assembly and operation of mobile oil analysis laboratory facilities.

b. MACOM commanders will-

(1) Ensure that all subordinate commands participate in the AOAP.

(2) Establish oil analysis laboratories in coordination with the AOAP director.

(3) Fund the operation of laboratories.

(4) Ensure standard statement of work is used in solicitation documents for the contractor operation of AOAP laboratories.

c. The CG, TRADOC, is responsible for developing and incorporating AOAP instructions into all appropriate service schools programs of instruction.

d. The following policies apply to the AOAP

(1) The AOAP is mandatory at all levels of maintenance operations for specified materiel, including overhaul for QA purposes.

(2) All Army aircraft and those systems identified in DA Pam 738-750, chapter 4, will be enrolled in the AOAP. Additions or deletions must be approved in writing, by the AOAP Director.

(3) The AOAP will be executed between the laboratory and the user unit.

(4) The lubricating and hydraulic oils from all components enrolled in the program will be evaluated by the servicing AOAP laboratories. Intervals are specified in DA Pam 738-750, chapter 4, TB 43-0106, or, upon notification, by the servicing AOAP laboratory.

(5) Upon receipt of a DA Form 3254-R (Oil Analysis, Recommendation, and Feedback) issued by the AOAP laboratory, the unit commander will place the equipment in a not mission capable maintenance status until the maintenance action is completed. To ensure safety of flight, an aircraft may be placed in a not mission capable status before formal receipt of a DA Form 3254-R.

(6) All units and levels of command will have an AOAP monitor who is adequately trained by the supporting lab or installation AOAP monitor.

(7) Each AOAP laboratory will provide oil analysis support per applicable publications and supplemental guidance provided by the program director.

(8) Oil sample valves will be installed on all vehicles and equipment enrolled in AOAP as specified by the materiel proponent. GS and depot activities will install sample valves during overhaul and repair of assemblies as needed.

(9) During wartime, AOAP priority will be given to aeronautical items.

(10) During the transition to war AOAP support will be provided by fixed labs and mobile or portable systems as they are available.

(11) During wartime, AOAP service will be-

(a) Provided as far forward as possible using the most responsive system available.

(b) Event oriented, occurring during unit stand downs, reconstitutions, and the conduct of DS and GS levels of maintenance.

(12) Direct communication between the AOAP program director and the various command operating elements and laboratories is authorized. Correspondence will be sent to the Commander, USAMC Logistics Support Activity, ATTN: AMXLS-LAP, Redstone Arsenal, AL 35898-7466.

e. The establishment and refinement of normal and abnormal wear metal concentration patterns is completely dependent on correlation of analytical data with actual conditions found at disassembly inspections. Feedback to the laboratory is essential to refine evaluation criteria, to increase the accuracy of laboratory predictions, and to recommend design changes in those major assemblies showing an abnormal failure rate through the AOAP. Therefore, operating and maintenance activities must furnish

maintenance and disassembly inspection data to the AOAP laboratories regarding engines or other major assemblies. The procedures for furnishing feedback are contained in DA Pam 738-750 and TB 43-0106.

f. Detailed operating procedures for the AOAP are contained in DA Pam 738-750 and TB 43-0106.

g. Interservice support is provided according to AR 700-132.

4-37. Army warranty program

a. Materiel under warranty will be identified and maintained, per the detailed policies and guidance contained in AR 700-139.

b. Warranty actions will be completed as directed in AR 700-139 and reported under DA Pam 738-750 and DA Pam 738-751.

c. Unit readiness and mission effectiveness will take priority over warranty actions. The supporting warranty coordinator (WARCO) will be notified immediately when equipment must be fixed first and the warranty settled later.

d. Application of the AOAP to items under warranty is specified in the item's warranty technical bulletin. AOAP procedures supplement the instructions directing oil changes for equipment under warranty.

e. Representatives of the Logistics Assistance Program will provide advice and assistance to MACOM WARCO and personnel at unit, DS, and GS levels of maintenance.

f. Manufacturer's standard warranties will be accepted when items are locally procured. Special warranties will be included in local purchases only when they are cost-effective and executable by the user.

4-39. Maintenance float

a. The maintenance float program is designed to assist in maintaining the readiness posture of units during peacetime. Maintenance float is a quantity of selected end items authorized for stockage at a depot or MACOM stock record account. It is used for the replacement of like items turned in by using units for which an immediate replacement is required to maintain an acceptable level of materiel readiness during peacetime. The two types of float are repair

cycle float (RCF) and operational readiness float (ORF).

4-40. Battlefield damage assessment and repair (BDAR)

a. The purpose of BDAR is to rapidly return disabled equipment to combat or to enable the equipment to self-recover. BDAR is the commander's responsibility, based on METT-T, and is accomplished by the operator/crew and unit/DS maintenance personnel. Realistic training must be performed during peacetime to ensure wartime proficiency.

5-40. Maintenance operations

a. Authorized maintenance may be accomplished in transportation motor pool shops, IMMA, local commercial shops, or other Government maintenance activities as jointly determined by the motor pool manager and the IMO. In all cases, warranties are to be used to the maximum extent possible. Detailed policies on management of NTV are in AR 58-1.

b. Operator inspection and service consists of inspecting and detecting malfunctions that make the vehicle unsafe or unserviceable and includes minor or simple parts replacement and servicing (water, fuel, tires, and battery).

c. At those installations having consolidated maintenance shops, all maintenance is the responsibility of the IMO. NTV maintenance may be performed in the transportation motor pool shop, but will normally be performed in the consolidated shops.

5-54. Maintenance policy

a. OCIE issued to soldiers will be inspected to determine serviceability as required by AR 700-84 and DA Pam 710-2-1. Normal maintenance, which would reasonably be expected to be performed within a unit, must be performed by the individual to whom the organizational clothing or equipment is assigned. This maintenance includes cleaning, spot removal, repair of tears or rips, and replacement of buttons.

b. Each installation or activity will ensure clothing and materiel beyond organizational repair capability is turned into a central location for repair and return to stock or classification as unserviceable and turn-in to DRMO.

c. The USPFO may authorize negotiation of local contracts for the maintenance of clothing and equipment for the ARNG as follows:

(1) Minor alterations and repairs of individual clothing.

(2) Minor repairs of USPFO stocks to reclassify items to a serviceable status for reissue.

d. Major alterations for the purpose of modifying items will require prior approval of Chief, National Guard Bureau.

e. Laundry and dry cleaning services. Laundry and dry cleaning services are authorized as follows:

(1) Laundry services in support of AT per NGB Pam 350-1.

(2) Laundry and dry cleaning services in support of IDT. These services should be obtained at the lowest possible cost for the following items

(a) White organizational clothing and equipment issued to medical and food service personnel.

(b) Sheets, pillow cases, and mattress covers.

(c) USPFO stocks of serviceable individual and organizational clothing and equipment prior to reissue.

(d) Individual clothing for interment of deceased personnel when burial is authorized from Federal funds.

(e) Blankets and sleeping bags.

(f) Army band distinctive uniforms as authorized by CTA 50-903.

STUDENT HANDOUT 2

Only the material that pertains to this lesson is extracted from DA PAM 738-750, AUG 1994

1-1. Purpose

- a. This pamphlet indicates which records are required to control and manage equipment and maintenance. AR 750-1 sets the policy for keeping the records outlined in this pamphlet.
- b. This pamphlet applies to all Army equipment, except installed equipment (see AR 420-17), industrial production equipment, nonstandard equipment that has not been type classified or assigned a National Stock Number (NSN), equipment bought with non-appropriated funds, and medical equipment covered by TB 38-750-2.

1-5. Types of Records

- a. Operational Records. Operational records give the information needed to control equipment. They help plan, manage, and put the equipment and personnel to the best use. Operational records are in chapter 2.
- b. Maintenance Records. Maintenance records control maintenance schedules and services, inspections, and repair workloads; and are used to report, ask for, and record repair work. They help keep up with the status of equipment for readiness, warranty, equipment use, and logistics reports. Maintenance records are in chapter 3.
- c. Equipment Historical Records. Historical records are permanent forms on the receipt, operation, maintenance, modification, transfer, and disposal of individual items of equipment. These records are in chapter 5.

2-2 c. The dispatcher

- (1) Fills requests for equipment to be issued or used.
- (2) Checks the operators OF 346 (US Government Motor Vehicle Operator's Identification Card)(DA Form 5984-E, US Government Motor Vehicle Operators ID (Automated)) to make sure the operator is licensed for the equipment requested.
- (3) Issues and collects the equipment record folder and the needed forms in the folder.
- (4) Makes sure that the operators make needed and correct entries on the forms in the equipment record folder.

- (5) Logs equipment in and out on the DA Form 2401 (Organizational Control Record for Equipment).
- (6) Makes required entries on the DD Form 1970 (Motor Equipment Utilization Record).
- (7) Makes sure equipment faults are reported to maintenance personnel using DA Form 2404.
- (8) Reports any differences in stated and actual destinations or missions.
- (9) Notes any services done during the dispatch, AOAP samples taken, and so forth. Update the DA Form 5823 (Equipment Identification Card) to show any new information.

2-5 a. DD Form 1970 (Motor Equipment Utilization Record)

- a. Purpose. The DD Form 1970 is a record of motor equipment use. The DD Form 1970 will be used to control the use of special purpose and material handling equipment, combat, tactical, and nontactical vehicles.
- b. Use.
 - (1) DD Form 1970 will be used to record operating time on equipment that requires services based on hours only. This includes such equipment as generators, air compressors, centrifugal pumps, and so forth. Operating time is the time of operation, using the time of day or hours of usage. Equipment on which an operating time DD Form 1970 is kept only requires an entry on DA Form 2401 when the equipment is used for the purpose for which it was intended; that is, a generator used to provide electrical power or a compressor used to provide compressed air for a mission or mission support. An entry on DA Form 2401 is not required when equipment is not leaving the motor pool area or area where equipment is maintained or stored.
 - (2) DD Form 1970 will be used for the following varying periods depending on its use.
 - (a) For regular dispatches, DD Form 1970 will be used until all the spaces in either the operator or destination sections have been filled. For equipment with

- a single operator, for example, the DD Form 1970 normally will be used for four separate dispatches before it is completed.
- (b) For an extended dispatch, DD Form 1970 will be used until all the spaces in either the operator or destination sections have been filled. An extended dispatch will be used whenever the equipment being dispatched will not return to the motor pool within the dispatch day; for example, prior to 2400. Examples for use of extended dispatch include guard duty and maneuvers. When an extended dispatch may require more room than one DD Form 1970 allows, the dispatcher provides blank copies of the DD Form 1970 to use as continuation sheets.
 - (c) Forms recording only operating time will be used until the destination or operator section is filled in.
- (3) DD Form 1970 will be used for control purposes for administrative and engineering and housing motor pools that do not have AADP support. Each dispatch will require a separate DD Form 1970.
 - (4) Equipment going to support maintenance will be dispatched to and from support maintenance on DD Form 1970 and DA Form 2401. An exception to this is when the unit requesting support maintenance and the support maintenance activity are located so that the equipment will not leave the Motor Pool area or area where equipment is maintained or stored. In this case, only a DA Form 2407 (Maintenance Request) needs to accompany the equipment. At support maintenance, the DA Form 2407 will be used as a dispatch record for maintenance repair operations and final road testing.
 - (5) The DD Form 1970 will be used to record exercises of low use equipment and equipment in administrative storage.
- (d) Disposition
 - (1) The dispatcher
- (a) Puts the time of return on the DA Form 2401 entry.
 - (b) Transcribes needed information to a new DD Form 1970. For equipment under the AOAP, the dispatcher takes any oil added from the Remarks Block. This number will be added to the total in the Oil Block at the top of the completed DD Form 1970. The new total will be entered in the Oil Block of the new DD Form 314. The dispatcher keeps a total of oil added to that item only until the next oil sample is taken. The date and hour of the next oil sample will be found on the DA Form 5823 and the DD Form 1970. When an oil sample is taken, the figure in the Oil block of the DD Form 1970 goes to zero. This information is needed for the DD Form 2026 (Oil Analysis Request) sent in with each oil sample.
 - (c) When required locally, add fuel added during the dispatches to the total in the Fuel Block. The new total will be placed in the Fuel Block on the new DD Form 1970. Local standing operating procedures (SOP) will decide how long and when fuel totals will be kept.
 - (d) Look for any unusual entries in the Remarks Block that need further action.
 - (e) After needed information has been

- moved to other forms, you may keep the last completed DD Form 1970 until a new form is completed. You may have no more than two DD Forms 1970 on the equipment: one completed copy on file and one open for dispatch.
- (f) When equipment is involved in an accident or other situation under investigation, keep the DD Form 1970 on the equipment until released by the investigator at the completion of the investigation. Prepare a new DD Form 1970 the next time the vehicle is dispatched.
- (2) A completed DD Form 1970 is as follows:
- (a) A DD Form 1970 used to dispatch equipment is considered completed whenever the operator blocks, time in and time out blocks, or destination blocks are filled. The commander may line out unused portion to close out a form whenever needed.
- (b) A DD Form 1970 used to show running time on equipment is considered completed when the destination or operator blocks are filled.

2-6 DA Form 2401 (Organizational Control Record for Equipment)

- a. *Purpose.* The DA Form 2401 is a record of operators and location of equipment on dispatch or in use.
- b. *Use.*
- (1) Dispatcher. Note the dispatch or use of equipment.
 - (2) DA Form 2401 tells commanders who asks for and uses the

equipment. It also lets the commander know where the equipment is and when it should return.

- c. *General information on the DA Form 2401.*
- (1) DA Form 2401 may be overprinted when the same equipment is dispatched every day.
 - (2) Use a separate DA Form 2401 to show the dispatch of "radio taxis". When this DA Form 2401 is used for radio cab dispatch, columns a through m will be filled in as required locally.
 - (3) The same page may be used for more than one day. Draw a line through the middle of columns "a" through "e" below the last dispatch entry for the day. Write the next date in column "f" (Destination), then draw a line through the middle of column "g" through "l". Do not make a line or date entry for days no equipment is dispatched.
 - (4) Make separate line entries for equipment that is towed to a location but will not return with the dispatched equipment.
 - (5) Do not dispatch equipment for motor stables or routine maintenance unless it leaves the equipment or motor pool area.
 - (6) Equipment sent to support maintenance on DA Form 2407 will be dispatched on DD Form 1970 and DA Form 2401 except as noted in paragraph 2-5b(5).
- d. *Disposition.*
- (1) Destroy DA Form 2401 one month after the last entry in column 1 has been closed out.
 - (2) If an accident or unusual situation occurs, keep the DA Form 2401 until it is released by the investigator.

Chapter 3 Maintenance Forms 3-3a

- a. The DD Form 314 is a record of scheduled and performed unit maintenance including lubrication services. It also keeps up with not mission capable (NMC/NMCS) time, except for missile system/missile

- subsystem and FAA flight check data of ATC navigational aids.
- b. DD Form 314 is used to
 - (1) Schedule periodic services on equipment, to include components in a system or subsystem, when the technical manual requires a PMCS service to be performed by unit maintenance personnel. This form is also used to schedule the following services performed under the supervision of unit maintenance personnel:
 - (a) Schedule all non-operator services one service in advance.
 - (b) The next scheduled due date may fall in the following year. In that case, put the date, miles, and hours due in the Remarks block until a new DD Form 314 is started.
 - (c) You may mark out weekends and holidays. When these are marked out, schedule services on the next working day.
 - (d) Use the following symbols to show:
 1. "T" any test.
 2. "I" any inspection.
 3. "L" lubrication.
 4. "R" recoil exercise.
 5. "W" weekly service.
 6. "M" monthly (1 month) service.
 7. "Q" quarterly (3 months) service.
 8. "S" semi-annual service (6 months).
 9. "A" annual (1 year) service.
 10. "E" 18 months service
 11. "B" biennial (2 years) service.
 12. "F" quadrennial (4 years) service.
 13. "H" tire rotation/inspection.
 14. "Z" oil sampling.
 - (e) The symbol "L" will be used for all periodic lubes required by a lubrication order (LO). The interval block on an LO only tells when to schedule the lubes. It does not tell what services to schedule or symbol to use.
 - (f) You will get the miles, kilometers, or hours between
- services from the TM and, or LO.
- (g) Other symbols or sub-symbols may be used as long as they do not conflict with the symbols required by this pamphlet. Explain those symbols or sub-symbols in the Remarks block of the DD Form 314 or in your SOP. For example, you might use S1, SB2, or Lm, L5, L6, L12, or others to show difficult services or manage the services pulled. You may also use sub-symbols to explain a service and lube pulled at the same time.
 - (h) Schedule services in pencil. To schedule a service, put its symbol in pencil in the date due block with its miles, kilometers, or hours beside it as shown above. (Not all services will have miles or hour intervals).
 1. You may not always be able to pull a service when it is scheduled. So you are given a 10 percent variance before or after the schedule of days, miles, or hours. If you stay within the variance, the service is treated as if you did it on the day/miles/hours you scheduled it.
 2. Some services may be too critical to have a variance. The equipment maintenance manual will tell you if no variance is allowed.
 3. When you do the service within the variance, ink in the symbol with the equipment's miles, kilometers, or hours on the date it was scheduled. When a service outside the variance is completed, erase the scheduled symbol and data, and ink in the symbol with data on the actual day the service was

- completed. Schedule the next service from the new date.
- (i) Lubrications vary the most when the LO requires a lube-
 1. By hours, miles, or kilometers only. Put the miles, kilometers, or hours when the next lube is due in the Remarks block. Ink in the symbol "L" and the hours, miles, or kilometers on the equipment in the block for the day you did the lube
 2. On a date interval. Put the symbol "L" on the date block the lube is due. Enter the miles, kilometers, or hours (when they apply) next to the symbol. When the lube is done, ink the "L" and the miles or hours.
 - (2) Show completed periodic services and lubes, by inking in the symbol or symbols and miles or hours. DD Forms 314 are tied to unit level services and their intervals. The number of DD Forms 314 you need varies, based on the equipment and how and where your maintenance is pulled. Normally one DD Form 314 covers one piece of equipment. Several like items may be covered by one DD Form 314 if the services are scheduled and pulled on the same date. Examples of "like items" are small arms and M11 decons. When scheduling services on more than one item, put each item's serial number in the Remarks block. Like equipment or sub-systems, reportable under AR 700-138, cannot be combined on one DD Form 314.
 - (3) Show NMC days on equipment reported under AR 700-138.
 - (a) NMC time is kept on equipment that is reported under AR 700-138, tables B-1 and B-2, as a single item or as a subsystem.
 - (b) Equipment reportable under AR 700-138, tables B-1 and B-2, need a record of not mission capable (NMC/NMCS) time. Keep NMC days on that equipment on the reverse of the DD Form 314 or a separate DD Form 314 as follows:
 1. NMC time is kept only when the equipment has a deficiency defined as not mission capable in the PMCS "not mission capable if" column.
 2. Deficiencies that are not covered by the PMCS "not mission capable if" column or equivalent will carry a status symbol "X" or CIRCLED "X", but NMC time will not be counted for those deficiencies. Those deficiencies will be carried on the DA Form 2404.
 - (c) Show unit NMCM days with the symbol "O". Put as "S" inside the "O" for unit NMCS. Post unit NMCM/NMCS days as they occur. Use the letter "X" for each day the equipment is NMCM at support. If support does not give you a day-by-day breakout, put the total number of support NMCM/NMCS days in the Remarks block. Use the front side of the DD Form 314 to schedule services. Use the reverse side or another DD Form 314 to show NMCM/NMCS time.
 - (d) Support maintenance will tell you which or how many days were NMCM/NMCS on the DA Form 2407 or a printout. Post this time to the DD Form 314. NMC time on equipment still in support maintenance at the end of a report period will be provided to the owning unit by telephone or other local means.
 - (e) For NMC time, equipment that is NMC at the end of the day is counted NMC for the whole day. Equipment that is FMC at the end of the day is counted as FMC for that whole day. A day is the normal work day for your command. See AR 700-138, chapter 4, for missiles.
 - (f) When equipment is loaned to another unit or activity, a copy of the DD Form 314 will go with the equipment. The borrowing unit will tell the owning unit about any NMCM/NMCS time on the equipment. This information will be given to owning unit at the end of the

- reporting period and when the equipment is returned.
- (g) Show system NMC time. Post NMC time on a separate DD Form 314 for each sub-system specifically identified in AR 700-138, tables B-1 and B-2. You will keep another separate DD Form 314 on the overall system, which is the system card. The system DD Form 314 show the NMCM/NMCS time on the combined system.
 - (4) Schedule oil samples. Scheduling oil samples on the DD Form 314 is optional when the lab gives you a printout that lists when the next sample is due. Schedule oil samples in pencil on the DD Form 314. When the sample is taken, erase the symbol and hours from the DD Form 314 and schedule the next sample in pencil.
 - (5) Manage maintenance, services, or inspections locally as directed by the unit commander. This can include services performed by other echelons or units when the commander so directs. If a commander wants operator or crew services scheduled, put them in the Remarks block.
 - (6) Warranty information.
 - (7) Floating equipment.
 - (8) Document ATC required data as follows.
 - (a) Show PMCS technical reference. Within remarks section, exact PMCS technical reference will be shown, down to specific paragraph.
 - (b) Show PMCS time. Within remarks section, show date of last flight check of navigational aid.
 - c. DD Form 314 is NOT USED for
 - (1) Periodic services designated for the operator or crew.
 - (2) Showing oil samples taken.
 - (3) Training aids and devices (equipment used ONLY for training). Small arms/weapons must be classified as unusable per AR 190-11 before they can be considered training aids.
 - (4) Equipment provided with an ADP printout or automated forms that list DD Form 314 data.
 - (5) Record unit services on test, measurement, and diagnostic equipment (TMDE) when the services are performed by operators without supervision by unit maintenance personnel.
 - (6) Record NMC time for missile system/missile sub-system per AR 700-138, Chapter 4.

Chapter 12

Unit Level Logistics System (ULLS) User Procedure

12-1. General ULLS Information

1. Information

- a. ULLS is the Army's Unit Level Logistics System. ULLS collects maintenance and supply data and provides management information at the unit level.
- b. ULLS automates/replaces portions of TAMMS. The following DA/DD Forms have been automated and the ULLS generated printouts (shown with an E) are authorized replacements.
 - (1) DA Form 5823 (Equipment Identification Card). DA Form 5823 is not required if you are operating with ULLS; this information is on the dispatch printout.
 - (2) DD Form 1970 (Motor Equipment Utilization Record) (DA Form 5987-E, Motor Equipment Utilization Record (Automated)).
 - (3) DA Form 2401 (Organizational Control Record for Equipment) (DA Form 5982-E, Dispatch Control Log (Automated)).
 - (4) DD Form 314 (Preventive Maintenance Schedule and Record (Front Side Only) (DA Form 5982-E, Preventive Maintenance Schedule and Record (Automated))).
 - (5) DA Form 2404 (Equipment Inspection and Maintenance Worksheet) (DA Form 5988-E, Equipment Inspection/Maintenance Worksheet (Automated)).
 - (6) DA Form 2405 (Maintenance Request Register) (DA Form 5989-E, Maintenance Request (Automated)).

- (7) DA Form 2407 (Maintenance Request) (DA Form 5990-E, Maintenance Request (Automated)).
- (8) DA Form 2408-14 (Uncorrected Fault Record). This form was eliminated by including all its information on the DA Form 5988-E (Equipment Inspection and Maintenance Worksheet).
- (9) DD Form 2026 (Oil Analysis Request) (DA Form 5991-E, Oil Analysis Request (Automated)).
- (10) DA Form 2408-9 (Equipment Control Record) (Usage only) (DA Form 5992-E, Equipment Usage Record (Automated)).
- (11) DA Form 348 (Equipment Operator Qualification Record) (DA Form 5983, Equipment Operator Qualification Record (Automated) and (DA Form 5983-1-E, Operator's Permit Record (Automated)).
- (12) Optional Form 346 (US Government Motor Vehicle Operator's Identification Card) (DA Form 5984-E, Operator's Permit Record (Automated)).
- (13) SF Form 46 (Operator's Identification Card) (DA Form 5984-E)

STUDENT HANDOUT 3
ONLY THOSE PARAGRAPHS THAT SUPPORT THIS ELO
ARE TAKEN FROM FM 3-40.3, SEP 00

Chapter 8

Safety, Security, and the Environment

Chapter 8 discusses general safety, security in maintenance areas, and environmental management. For assistance with specific questions you might have in these areas, contact your unit, installation, or major command safety, security, or environmental officer.

SECTION I — SAFETY

8-1. Section I discusses general safety programs, safety plans, responsibilities and duties of leaders and managers, accident follow-up procedures, and risk assessment and management procedures. Injuries and accidents reduce a unit's effectiveness, impact adversely on morale and discipline, and deplete operational capabilities. Under combat conditions and during continuous operations, fatigue and the stress of battle add to the causes of accidents.

**SAFETY
PROGRAM**

8-2. The impact of a poor safety program or low safety awareness is a reduction in the maintenance structure's ability to provide quality maintenance support. An effective safety program is essential to the success of maintenance operations.

8-3. Safety must encompass all phases of support operations. Leaders and managers must ensure personnel are trained and aware of the proper handling of material, the safe use of hand tools, and the consistent application of safety practices. Personnel must be constantly vigilant to detect potential hazards, to apply control measures, to reduce or eliminate danger, and to report accidents and safety hazards promptly.

**MAINTENANCE
HAZARDS**

8-4. Maintenance support operations involve numerous potential safety hazards. These hazards are present in operations involving—

- High voltage and amperage.
- High-pressure air.
- Hydraulics.
- Infrared radiation.
- Radioactivity.
- Radio frequency energy.
- Lasers.

- Mechanical devices.
- Solvents and chemicals.
- Explosives and flammables.

MAINTENANCE SAFETY	8-5. Personnel in maintenance units must be familiar with the contents of all pertinent publications. DA Pamphlet 25-30 lists regulations for safety policies and procedures. Technical bulletins and manuals provide information on the safe handling, use, storage, and maintenance requirements of tools, equipment, and hazardous materials. Optimum safety depends on personnel following correct safety procedures. Shortcuts or deviations can result in accidents.
RESPONSIBILITIES AND DUTIES	8-6. Safety is a command responsibility at all echelons. Commanding officers must take an active, aggressive leadership position on safety. They must appoint a unit safety officer and organize a safety committee of technical and supervisory personnel. The commander is also responsible for determining the cause of accidents and ensuring that corrective action is taken to prevent their recurrence. When existing safety rules need revision due to changes in equipment, operating conditions, or operating areas, it is the unit commander's responsibility to initiate action accommodating the changes.
LEADER LEVEL	8-7. Leaders and managers ensure that soldiers perform their duties safely. Keeping soldiers aware, ensuring they are careful, halting unsafe operations, planning, and preparing are the proactive measures leaders take to prevent accidents.
INDIVIDUAL LEVEL	8-8. Safety regulations and guidelines are for everyone's protection and welfare. Each individual is responsible for following all instructions and using all safeguards. Cooperation among workers to develop and practice safe working habits is essential to prevent injuries to personnel and damage to material and facilities. The key to the safety program is focusing the whole effort to prevent individuals from having accidents. The prevention equation is simple: <p style="text-align: center;"><i>Training + Equipment + Motivation + Leadership = SAFETY</i></p> Each element must be present in the proper amount, and the individual person normally knows if this is the case.
UNIT SAFETY PROGRAM	8-9. An effective unit safety program is necessary for mission accomplishment. A maintenance mission cannot be fully successful if death, injury, or damage to equipment or facilities occurs within it. Leaders and managers must comply with regulatory requirements for their particular operations. They ensure that the program conforms with AR 385-10 and DA

[Pamphlet 385-1.](#)

UNIT SAFETY OFFICER	8-10. The unit safety officer supervises, manages, coordinates activities related to unit safety, advises the commander on safety matters, including risk assessment and risk management, and suggests improvements to the unit safety program.
SUPERVISORS' RESPONSIBILITIES	<p>8-11. Supervisors must include safety in their plans and discussions of daily maintenance operations. Supervisors must hold regular meetings in the work area. These meetings serve—</p> <ul style="list-style-type: none">• To review and critique performance, draw out ideas on improving the safety program, and publicize new or changed safety procedures.• As a source of information and ideas that may have a wider use.
ACCIDENT FOLLOW-UP PROCEDURES	<p>8-12. Under the Army Safety Program, the supervisor must record each accident in accordance with DA Pamphlet 385-40. Report accidents on DA Forms 285 or 285-AB-R. Guidance for preparing these forms is in DA Pamphlet 385-40. When an accident occurs, gather all essential information. The following facts should be obtained:</p> <ul style="list-style-type: none">• Names of personnel injured, identification of equipment or facility damaged.• Time and place the accident occurred.• Severity and cost (in manpower and materiel) of the accident.• Nature of the accident.• How and why the accident occurred. <p>8-13. Leaders and managers must concentrate on the prevention of similar accidents. Corrective actions can include removing hazards, improving operations, redesigning or modifying equipment, and training personnel. Near-miss accidents should also be reported so that personnel can exercise preventive measures. Leaders and managers must monitor corrective action to ensure that it is being implemented.</p>
SAFETY STANDING OPERATING PROCEDURES	<p>8-15. The safety officer is responsible for the preparation of the unit safety SOP. Some of the elements the safety officer should include in the SOP are—</p> <ul style="list-style-type: none">• Safety officer and safety council members responsibilities.• Safety hazard and accident reporting procedures.• Accident or injury investigation procedures.

- Fire fighting and first aid team responsibilities.
 - Location and use of safety, first aid, and fire fighting equipment.
 - Responsibilities of other key unit positions (e.g., maintenance control officer, shop foreman, platoon leaders and sergeants).
-

**SAFETY
STANDING
OPERATING
PROCEDURES,
continued**

Other considerations include—

- Hazardous material (HAZMAT) and hazardous communications (HAZCOM) local written policy and programs.
- Safety award program and policy.
- Location, care, and use of personnel protective clothing and equipment (PPC&E).
- Initial and sustainment safety training for assigned personnel.
- Safety action plans outlining goals and objectives.
- Periodic safety meetings.

**PERSONNEL
SAFETY/PRO-
TECTION
PROGRAMS**

8-18. Numerous safety programs can be incorporated into day-to-day maintenance operations:

- Visual protection programs.
- Hearing protection programs.
- Respiratory protection programs.
- Laser/radiation protection programs.

**VISION
PROTECTION**

8-19. There are three types of vision hazards:

- Physical impact.
- Chemical contact.
- Energy intensity.

Vision hazards can be eliminated by using the personnel protective clothing and equipment appropriate to the maintenance operation. [TB MED 506](#) provides guidance on establishing a vision protection program.

**HEARING
CONSERVA-
TION**

8-20. Noise is a hazard affecting the physical and mental abilities of personnel that must be considered in maintenance operations. See [ARs 40-5](#) and [385-10](#) for guidance on hearing conservation.

**RESPIRATORY
PROTECTION**

8-21. Maintenance operations involving the use of chemicals or paints present a health hazard. Protection from these hazards should be a safety consideration in maintenance operations. See [TB MED 502](#) for guidance.

**LASER
RADIATION
PROTECTION**

8-22. Laser radiation can be an extreme health hazard. Certain types of equipment used in maintenance operations emit a laser beam or radiation. These hazards are a safety consideration in maintenance operations. See [TB MED 524](#) for guidance on establishing a laser/radiation protection program.

**MAINTENANCE
ACCIDENT
PREVENTION**

8-39. Maintenance accidents involving on-duty soldiers and civilians injured while installing, removing, or modifying equipment should be addressed when developing prevention programs. Accident prevention is vital to combat readiness. The following four factors are responsible for most accidents:

- Failure to follow procedures.
- Poor supervision.
- Lack of written procedures.
- Insufficient or no training.

**MAINTENANCE
FACILITY
ACCIDENTS**

8-40. Areas that account for accidents in maintenance facilities include—

- Operation of tools and equipment.
- Lifting (see [DA Pamphlet 385-5](#)).
- Hazardous actions.
- Lack of security and inadequate inspection of equipment.
- Lack of communication.
- Poor housekeeping.
- Carelessness.
- Failure to depressurize or disconnect components or equipment.
- Fatigue.

**VEHICLE
ACCIDENTS**

8-41. Common causes of vehicle accidents in maintenance units include—

- Lack of driver training.
- Speeding.
- Fatigue.
- Following too closely.
- Improper ground guiding.
- Failure to wear seat belts.

PERSONNEL

8-45. PPC&E should be used as appropriate to enhance safe operations.

**PROTECTIVE
CLOTHING
AND
EQUIPMENT**

Safety equipment must be in good working condition and capable of serving the purpose for which it was designed. Persons who are issued PPC&E should understand how to put on, wear, and maintain it. Appropriate personal protective clothing and equipment should be selected based on the operation's hazards.

8-46. The most logical method of determining the need for PPC&E and the specific kind needed is a survey of all shop operations. [AR 385-10](#) requires written documentation on the selection of personal protective clothing and equipment. Good maintenance of safety PPC&E prolongs its life as well as the user's in addition to ensuring proper functioning and use. For further information on the use and availability of protective clothing and equipment, see [DA Pamphlet 385-3](#) and [AR 385-10](#).